

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. Where claims have been amended and/or canceled, such amendments and/or cancellations are done without prejudice and/or waiver and/or disclaimer to the claimed and/or disclosed subject matter, and the applicant and/or assignee reserves the right to claim this subject matter and/or other disclosed subject matter in a continuing application.

Listing of the claims:

1. (Currently Amended) A compensation apparatus for image scan, applied to an optical scanner that comprises a platform to locate an object to be scanned thereon, a photosensitive apparatus with a set of scan photosensitive devices, and a storage apparatus, wherein a scanned image is obtained and temporarily stored in the storage apparatus after the object is scanned, the compensation apparatus comprising:

a set of calibration boards, having comprising two calibration boards approximately located at two sides of [[the]] a platform;

a set of calibration photosensitive devices, approximately located at two sides of [[the]] a set of scan photosensitive devices, said set of calibration photosensitive devices capable of obtaining to obtain a set of calibrated images by detecting the calibration boards; and

an image processor, [[to]] capable of calculating an optical path deviation based at least in part on extract and compare the calibrated images for adjusting to adjust the scanned image.

2. (Currently Amended) The compensation apparatus according to claim 1, wherein the set of calibration photosensitive devices is formed of comprises a plurality of calibration photosensitive devices arranged in a LxK array at two sides of the set of scan photosensitive devices, and wherein L and K are integers larger than 1.

3. (Currently Amended) The compensation apparatus according to claim 2, wherein the set of scan photosensitive devices is formed of comprises a plurality of scan

photosensitive devices, and wherein the calibration photosensitive devices have a dimension smaller than that of the scan photosensitive devices.

4. (Currently Amended) The compensation apparatus according to claim 1, wherein the calibration boards have a strip shape and a width increasing linearly along a scanning direction.

5. (Currently Amended) The compensation apparatus according to claim 4, wherein the strip-like calibration boards have a trapezium shape planes.

6. (Currently Amended) The compensation apparatus according to claim 4, wherein the strip-like calibration boards have a triangle shape planes.

7. (Currently Amended) The compensation apparatus according to claim 4, wherein the strip-like calibration boards have curved perimeters.

8. (Currently Amended) The compensation apparatus according to claim 1, wherein the strip-like calibration boards have widths decreasing linearly along a scanning direction.

9. (Currently Amended) The compensation apparatus according to claim 8, wherein the strip-like calibration boards have a trapezium shape planes.

10. (Currently Amended) The compensation apparatus according to claim 8, wherein the strip-like calibration boards have a triangle shape planes.

11. (Currently Amended) The compensation apparatus according to claim 8, wherein strip-like calibration boards have curved perimeters.

12. (Currently Amended) The compensation apparatus according to claim 1, wherein the image processor is capable of extracting and comparing extracts and

compares the calibrated images to calculate [[an]] said optical path deviation, and magnitude and direction of the optical path deviation are calculated according to based at least in part on a pattern proportion and a displacement position variations of the calibrated images of the calibration boards detected by the set of calibration photosensitive devices.

13. (Currently Amended) The compensation apparatus according to claim 1 [[12]], wherein the ~~method to calculate the optical path deviation includes~~ image processor is further capable of:

calculating the optical path deviation in an x-axis according to a displacement position alteration of the calibrated images detected by the set of calibration photosensitive devices;

calculating the optical path deviation in a y-axis according to the displacement position alteration of the calibrated images detected by the set of calibration photosensitive devices; and

calculating the optical path deviation in a z-axis according to the displacement position alteration of the calibrated images detected by the set of calibration photosensitive devices.

14. (Currently Amended) The compensation apparatus according to claim 13, wherein the ~~method to calculate the optical path deviation further includes~~ image processor is further capable of:

calculating the optical path deviation twisting around the y-axis according to the optical path deviation in the z-axis; and

calculating the optical path deviation twisting around the z-axis according to the optical path deviation in the y-axis.

15. (Currently Amended) A compensation apparatus for image scan, applied to an optical scanner comprising a platform for depositing an object to be scanned thereon, a photosensitive apparatus including a set of scan photosensitive devices, and a storage apparatus, wherein when the object is detected by the set of scan photosensitive devices,

a scanned image is obtained and temporarily stored in the storage apparatus, the compensation apparatus comprising:

- a calibration board, approximately located at one side of [[the]] a platform;
- a set of calibration photosensitive devices, approximately located at one side of [[the]] a set of scan photosensitive devices, capable of obtaining to obtain a calibrated image by detecting the calibration board; and
- an image processor, capable of calculating an optical path deviation based at least in part on to extract and compare the calibrated image to adjust the scanned image.

16. (Currently Amended) The compensation apparatus according to claim 15, wherein the set of calibration photosensitive devices comprises a plurality of calibration photosensitive devices arranged at two sides of the set of scan photosensitive devices in an LxK array, where wherein L and K are integers larger than 1.

17. (Currently Amended) The compensation apparatus according to claim 15, wherein the set of scan photosensitive devices is formed of comprise a plurality of scan photosensitive devices, and wherein the calibration photosensitive devices have a dimension smaller than that of the scan photosensitive devices.

18. (Currently Amended) The compensation apparatus according to claim 15, wherein the calibration boards have a strip shape and a width increasing linearly along a scanning direction.

19. (Currently Amended) The compensation apparatus according to claim 15, wherein the calibration boards have a strip shape and a width decreasing linearly along a scanning direction.

20. (Currently Amended) The compensation apparatus according to claim 15, wherein the image processor is capable of extracting and comparing extracts and compares the calibrated image to calculate [[an]] said optical path deviation, and magnitude and direction of the optical path deviation are calculated according to based at

least in part on a pattern proportion and a displacement position variations of the calibrated image of the calibration boards detected by the set of calibration photosensitive devices.

21. (Currently Amended) The compensation apparatus according to claim 15 [[20]], wherein the method to calculate the optical path deviation includes image processor is further capable of:

calculating the optical path deviation in an x-axis according to a displacement position alteration of the calibrated image detected by the set of calibration photosensitive devices;

calculating the optical path deviation in a y-axis according to the displacement position alteration of the calibrated image detected by the set of calibration photosensitive devices; and

calculating the optical path deviation in a z-axis according to the displacement position alteration of the calibrated image detected by the set of calibration photosensitive devices.

22. (Currently Amended) The compensation apparatus according to claim 21, wherein the method to calculate the optical path deviation further includes image processor is further capable of:

calculating the optical path deviation twisting around the y-axis according to the optical path deviation in the z-axis; and

calculating the optical path deviation twisting around the z-axis according to the optical path deviation in the y-axis.

23. (New) A method, comprising:

obtaining a calibrated image by detecting a calibration board approximately located at one side of a platform of a scanner with a set of calibration photosensitive devices; and

calculating an optical path deviation based at least in part on the calibrated image to adjust the scanned image.

24. (New) The method of claim 23, further comprising: extracting and comparing the calibrated image to calculate said optical path deviation magnitude and direction based at least in part on a pattern proportion and a displacement of the calibrated image of the calibration board detected by the set of calibration photosensitive devices.

25. (New) The method of claim 23, further comprising:
calculating the optical path deviation in an x-axis according to a displacement of the calibrated image detected by the set of calibration photosensitive devices;
calculating the optical path deviation in a y-axis according to the displacement of the calibrated image detected by the set of calibration photosensitive devices; and
calculating the optical path deviation in a z-axis according to the displacement of the calibrated image detected by the set of calibration photosensitive devices.

26. (New) The method of claim 25, further comprising:
calculating the optical path deviation twisting around the y-axis according to the optical path deviation in the z-axis; and
calculating the optical path deviation twisting around the z-axis according to the optical path deviation in the y-axis.

27. (New) An apparatus, comprising:
means for obtaining a calibrated image by detecting a calibration board approximately located at one side of a platform of a scanner with a set of calibration photosensitive devices; and
means for calculating an optical path deviation based at least in part on the calibrated image to adjust the scanned image.

28. (New) The apparatus of claim 27, further comprising: means for extracting and comparing the calibrated image to calculate said optical path deviation magnitude and direction based at least in part on a pattern proportion and a displacement of the

calibrated image of the calibration board detected by the set of calibration photosensitive devices.

29. (New) The apparatus of claim 27, further comprising:

means for calculating the optical path deviation in an x-axis according to a displacement of the calibrated image detected by the set of calibration photosensitive devices;

means for calculating the optical path deviation in a y-axis according to the displacement of the calibrated image detected by the set of calibration photosensitive devices; and

means for calculating the optical path deviation in a z-axis according to the displacement of the calibrated image detected by the set of calibration photosensitive devices.

30. (New) The apparatus of claim 29, further comprising:

means for calculating the optical path deviation twisting around the y-axis according to the optical path deviation in the z-axis; and

means for calculating the optical path deviation twisting around the z-axis according to the optical path deviation in the y-axis.